We claim:

1. A programmable sensor array having a plurality of programmable cells, each of the cells comprising:

a programmable module; and

a sensor element operatively coupled to the programmable module, wherein the programmable module is programmable to perform logic functions and in use the sensor element provides a signal to the programmable module, the signal being dependent upon variations in an ambient condition monitored by the sensor element.

2. A programmable sensor array, as claimed in claim 1, further including analogue module operatively coupling the programmable module to the sensor element.

3. A programmable sensor array, as claimed in claim 2, wherein the sensor element is an image sensor element.

4. A programmable sensor array, as claimed in claim 3, wherein the image sensor element is pixel element.

5. A programmable sensor array, as claimed in claim 1, wherein the sensor element and programmable module are in a stacked relationship.

6. A programmable sensor array, as claimed in claim 2, wherein the sensor element, programmable module and analogue module are in a stacked relationship.

7. A programmable sensor array, as claimed in claim 2, wherein the analogue module is sandwiched between the sensor element and programmable module.

8. A programmable sensor array, as claimed in claim 2, wherein the sensor element is formed on an upper semiconductor substrate.

9. A programmable sensor array, as claimed in claim 8, wherein the programmable module is formed on a lower semiconductor substrate.

10. A programmable sensor array, as claimed in claim 9, wherein the analogue module is formed on an intermediate semiconductor substrate sandwiched between the upper semiconductor substrate and lower semiconductor substrate.

11. A programmable sensor array, as claimed in claim 1, wherein the programmable module comprises configurable logic blocks.

12. A programmable sensor array, as claimed in claim 11, wherein the programmable module forms part a field programmable logic array.

13. A programmable sensor array, as claimed in claim 2, wherein in plan view the sensor element is directly aligned with at least part of the programmable module.

14. A programmable sensor array, as claimed in claim 13, wherein in plan view the sensor element is in direct alignment with the programmable module.

15. A programmable sensor array, as claimed in claim 14, wherein the sensor element is directly aligned with at least part of the analogue module.

16. A programmable sensor array, as claimed in claim 15, wherein in plan view the sensor element is in direct alignment with the analogue module.

17. A programmable sensor array, as claimed in claim 2, wherein the cells are operatively coupled to input-output ports thereby allowing communication of the sensor array with external electronic circuitry.

18. A programmable sensor array, as claimed in claim 2, wherein the analogue module is an analogue to digital converter.

19. A programmable sensor array, as claimed in claim 2, wherein the analogue module includes a differential amplifier or a comparator.

20. A programmable sensor array, as claimed in claim 2, wherein the analogue module includes a comparator.

21. A programmable sensor array package having a plurality of programmable cells, each of the cells comprising:

a programmable module formed on a lower semiconductor substrate; and

a sensor element operatively coupled to the programmable module, the sensor element being formed on an upper a semiconductor substrate and the sensor element and programmable module being in a stacked relationship.

22. A programmable sensor array package, as claimed in claim 21, further including an analogue module operatively coupling the programmable module to the sensor element.

23. A programmable sensor array package, as claimed in claim 22, wherein the analogue module is formed on an intermediate semiconductor substrate sandwiched between the upper semiconductor substrate and lower semiconductor substrate.